HDF Product Designer 1.4.0

Introduction

HDF Product Designer (HPD) helps data producers design conventional HDF5 products easily and generate consistently interoperable data products by utilizing best practices and standards if they exist in their data user communities. Conventions are defined using the powerful CLIPS expert system and designs can be re-used across product suites.

Key goals this application strives to fulfill:

- Facilitate creation of interoperable and standards-compliant data products in HDF5 as early as possible in the project development process.
- Support multiple computing platforms without requiring the full software stack of development tools and libraries installed.
- Easy and intuitive editing (create, update, move, copy, delete) of HDF5 objects.
- Collaborative approach to product design (project/team/organization-wide).
- Incorporation of best practices and standards from targeted data user communities.
- Integration of compliance and interoperability tests into the design workflow.
- Content import from existing files.
- Export of designs as HDF5 files, HDF5/JSON, or as source code in several programming languages.

The Hierarchical Data Format (HDF5) provides a flexible container that supports groups and datasets, each of which can have attributes. In many ways, HDF5 is similar to a directory structure in a file and, like directory structures, the same data can be structured and annotated in many ways. This flexibility empowers HDF5 users to arrange data in ways that make sense to them. However, it can make it difficult to share data as users, and tools, must understand the structure and the properties of data in order to use and understand it.

Many communities have successfully addressed this problem by creating conventional structures and annotations for data in HDF5. This approach depends on data files (e.g., products) that carefully follow these conventions. In some cases, designing and writing those files can be challenging or the user creating the product may be driven by local needs that lead to deviations from the conventions. Unfortunately, even small deviations can cause problems for downstream tools and future users.

What is a *HDF5 product* in the context of this software? HDF5 product is the content that should exist in a single HDF5 file. This content is defined by the HDF5 objects (groups, attributes, datasets), their names, the hierarchies they create (links and references), and attribute values. Dataset values are typically not stored in such files (unless they qualify as *metadata*) thus this software cannot be used as a data server. Once completed, a HDF5 product is replicated in many files (commonly on the order of tens of thousands or more) and filled with real data.

What's New

The latest version 1.4.0 of the HDF Product Designer was released on July 1, 2016. Here are a few highlights:

- Multiple projects can be opened.
- Design can be copied among projects.
- Experimental search & replace function is added.

You can download the release version 1.3.0 of HPD from here.

Download

First time users:

NASA Earthdata account is required to use this application. Please register and then check the user guide on how to allow HDF Product Designer to access your Earthdata user information.

The Windows platform binaries require Microsoft Visual C++ 2008 Redistributable Package (x86) if your system doesn't already have one.

Platform	Binary	SHA256 Checksum
Windows 7/8/10 Setup	HPD_setup.exe	5306c69057ae1b9afb59ffa71621a07294c4bea3677f371bf8849ee3ed0
Windows 7/8/10 (no admin privilege)	HPD.exe	ccffe329ad30f6a6c6bba17cfdd6d69614ed5b3f4a3d2adce1ea83b426eb
Mac OS X (Mavericks or newer)	HPD.dmg	985c3ac74b044aab01bccccb9f6b5dca7086fb4a59f4d33e2f3a887f8eb7
Linux 2.6 (x86_64)	HPD	2d0fae038163a37440592e6c4dbd560e0c1703dfb979d3d3c0e5d8a618

User Guide

Latest version: http://hpd.readthedocs.io/en/latest/